REMARKS

By this reply, claims 1, 3, 4, 6, 7 and 13 are amended without intending to narrow their scopes, and new claims 19 and 20 have been added, leaving claims 1 and 3-20 pending in the application. Applicants submit that no new matter has been added by the amendments. Favorable consideration is respectfully requested.

Rejection Under 35 U.S.C. § 112

Claims 11, 12, 17 and 18 stand rejected under 35 U.S.C. § 112, second paragraph. The reasons for the rejection are stated on page 2 of the Office Action. The rejection is respectfully traversed.

The Office Action asserts that claims 11, 12, 17 and 18 are improper dependent claims because they allegedly fail to further limit the subject matter of the previous claim. Applicants disagree. Claims 11 and 12 depend from claim 1. Claim 1 recites that the article is a single crystal **or** directionally solidified article. In other words, the article can be alternatively be a single crystal **or** a directionally solidified article. Claim 11 recites that the article is a single crystal article. Accordingly, claim 11 further defines the method of claim 1. Likewise, claim 12, which recites that the article is a directionally solidified article, further defines the method of claim 1. Claims 17 and 18 depend from claim 13 and further define the method of claim 13.

Applicants submit that claims 11, 12, 17 and 18 meet the requirements of 35 U.S.C. § 112, second paragraph. Therefore, withdrawal of the rejection is respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 1, 3-5 and 7-12 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,824,205 to Foster. The reasons for the rejection are stated on pages 3-4 of the Office Action. The rejection is respectfully traversed.

Claim 1 recites a method of depositing a MCrAlY-coating **directly on the surface** of a single crystal or directionally solidified article. The method comprises coating the surface of the article only at a local area with a γ/γ' or γ/β MCrAlY-coating by an electroplating method. As recited in claim 1, the γ/γ' or γ/β MCrAlY-coating is coated directly on the surface of the article. As shown in the Figure, according to an exemplary embodiment of the claimed method, a MCrAlY coating 6 can be applied directly on the exterior surface 5 of the single crystal or directionally solidified article 1. See, e.g., page 6, line 18 to page 7, line 16, of the specification, and the Abstract.

Foster discloses a protective coating and methods of producing the coating. In contrast to the claimed method, Foster's method comprises aluminizing, chromizing or siliconizing a substrate, and then depositing, **on the coated substrate**, an M_1CrAlM_2 layer by electrolytic or electroless deposition. That is, the M_1CrAlM_2 layer is deposited on the underlying aluminized, chromized or siliconized layer applied on the substrate. See Foster at, e.g., the Abstract and column 2, lines 46-54. Applicants submit that Foster's coating method would result in a different structure, which the Office Action has not established is **necessarily** characterized by a γ/γ' or γ/β phase. Because Foster does not disclose a method of depositing a γ/γ' or γ/β MCrA1Y-coating directly on the surface of a single crystal or directionally solidified article, Foster does not anticipate the method of claim 1 for at least this reason.

Claims 3-5 and 8-12 depend from claim 1 and thus are also not anticipated by Foster for at least the same reasons as those for which claim 1 is not anticipated.

Claim 7, as amended, recites a method of repairing a used γ/γ' or γ/β MCrAlY-coating disposed **directly on the surface** of a single crystal or directionally solidified article. The method comprises coating **the surface** of the article only at a local area with a γ/γ' or γ/β MCrAlY-coating by an electroplating method. Claim 7 is also not anticipated by Foster.

Therefore, withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. § 103

A. Claims 6 and 13-18 stand rejected under 35 U.S.C. § 103(a) over Foster in view of Rigney. The reasons for the rejection are stated on pages 5-6 of the Office Action. The rejection is respectfully traversed.

Claim 6 depends from claim 1. Foster does not suggest the method recited in claim 1. For example, Foster does not suggest modifying the disclosed method by eliminating the step of aluminizing, chromizing or siliconizing the substrate, but **instead** depositing, directly on the substrate, a γ/γ or γ/β M_1CrAlM_2 layer by electrolytic or electroless deposition.

Rigney does not cure the deficiencies of Foster with respect to the claimed method. Rigney discloses gas turbine components having a protective coating, but at least does not disclose or suggest locally coating an article with a γ/γ coating or with a γ/β MCrAlY-**coating**. In contrast, Rigney describes a turbine **component** preferably made of a nickel-base superalloy, which is "typically of a composition that is strengthened by precipitation of gamma-prime phrase" (column 7, lines 29-30).

The component is a substrate, **not** a coating. Because Rigney does not suggest a γ/γ or a γ/β MCrAlY-**coating**, Rigney does not suggest modifying Foster's method to deposit a γ/γ or γ/β MCrAlY coating directly on a surface of a single crystal or directionally solidified article, as recited in claim 1. Thus, claim 6 is patentable over the combination of Foster and Rigney for at least the same reasons as those for which claim 1 is patentable.

Independent claim 13, as amended, recites a method of depositing a MCrAlY-coating **directly on** the surface of a single crystal or directionally solidified article. The recited method comprises coating the surface of the article only at local areas with a γ/γ' or γ/β MCrAlY-coating by an electroplating method, wherein different areas of the surface of the article are coated with different γ/γ' or γ/β MCrAlY-coatings. Foster and Rigney also do not suggest the combination of features recited in claim 13.

Claims 14-18, which depend from claim 13, are also patentable over the applied references for at least the same reasons as those for which claim 13 is patentable.

Therefore, withdrawal of the rejection is respectfully requested.

B. Claims 1, 3-5 and 7-12 stand rejected under 35 U.S.C. § 103(a) over Foster in view of UK Patent Application No. 2 167 446 A (UK '446). The reasons for the rejection are stated on pages 6-7 of the Office Action. The rejection is respectfully traversed.

As discussed above, Foster fails to suggest the method recited in claim 1. Foster does not disclose a γ/γ' or γ/β MCrAlY-coating, much less applying such

coating **only at a local area and directly on the surface** of a single crystal or directionally solidified article, as claimed. Applicants submit that Foster discloses a standard process of coating a **complete** gas-washed airfoil surface that includes covering the airfoil portions and the root and shroud portions. See column 8, lines 8-10 of Foster.

UK '446 fails to cure the deficiencies of Foster with respect to the method recited in claim 1. UK '446 does not suggest modifying Foster's method to result in the claimed method of depositing a MCrAlY-coating **directly on the surface of** a single crystal or directionally solidified article, which comprises coating the surface of the article **only** at a local area with a γ/γ' or γ/β MCrAlY-coating by an electroplating method. Accordingly, claim 1 is patentable over the applied references.

Claims 3-5 and 8-12, which depend from claim 1, are also patentable for at least the same reasons as those for which claim 1 is patentable.

Regarding claim 7, the applied references also fail to suggest the recited method of **repairing** a used γ/γ' or γ/β MCrAlY-coating disposed **directly on the surface** of a single crystal or directionally solidified article, wherein the method comprises coating **the surface** of the article **only at a local area** with a γ/γ' or γ/β MCrAlY-coating by an electroplating method. Applicants submit that neither Foster nor UK '446 discloses a repair method, much less the method recited in claim 7.

Therefore, withdrawal of the rejection is respectfully requested.

C. Claims 6 and 13-18 stand rejected under 35 U.S.C. § 103(a) over Foster in view of UK '446, and further in view of Rigney. The reasons for the rejection are stated on pages 7-8 of the Office Action. The rejection is respectfully traversed.

For reasons discussed above, Rigney does not cure the deficiencies of Foster and UK '446 with respect to the method recited in claim 1, or the method recited in claim 13. Accordingly, dependent claims 6 and 14-18, respectively, are also patentable over the applied references for at least the same reasons as those for which claims 1 and 13, respectively, are patentable.

Therefore, withdrawal of the rejection is respectfully requested.

Conclusion

For the foregoing reasons, allowance of the application is respectfully requested. If there are any questions concerning this response, the Examiner is respectfully requested to contact the undersigned at the number given below.

Respectfully submitted,

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